# Lampung Macroeconomy: A Model of Social Accounting Matrix

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**Abstract**

Indonesia's economics contribute dominantly to the agriculture sector. Its also represented in Lampung Province, Indonesia. The main goal of the research was to design an agricultural development model. The method is approached by Social Accounting Matrix (SAM) model. SAM Lampung was designed as a macro model with an 8 x 8 matrix. Secondary data of Input-Output Lampung 2010 as basic data. Data sources get from Lampung Statistic Board and agriculture agency, industrial and trade agency, and Indonesia monetary authorization. The result revealed that based on the total multiplier, the agriculture sector is still dominant in Lampung's economic structure. Unfortunately, agriculture's household multiplier was the lowest compared with trade and industry, and services. This fact indicates that agriculture development is not adequate yet enhancing the farmer's income. Agriculture development needs to address farmer's households. Stimulation on agriculture exogenous balance is necessary to enhance farmers' household income.

## 1. Introduction

The challenge of the most agricultural society in developing countries was to against poverty. End all forms of poverty everywhere become the first Sustainable Development Objectives (SGDs). Indonesia's Government responded to the SGDs with issued Presidential Regulation Number 59, 2017 about the Implementation of the Achievement of Sustainable Development Objectives (Murniningtyas, 2014). The poverty alleviation with promoting inclusive and sustainable economic growth, productivity, employment opportunities, and comprehensive and decent work for all will need a robust macroeconomics approach. The Ministry of PPN/National Planning Board as the Implementing Coordinator of

SDGs in Indonesia invites government elements and parliament, philanthropy and business, community organizations and the media, academics, and experts to implement the SDGs agenda successfully. Periodically, the government will also conduct monitoring, evaluation, and reporting, both at national and local levels, to see progress towards achieving the target of SDGs. Macroeconomic research becomes essential in the preparation of regional development models.

All activity economics in a region are fully described as a comprehensive Social Accounting Matrix (SAM) (Thorbecke, 2000). The development of an economy-wide model using recent and consistent multi-sector economic data needs a policy analysis tool. The tool analysis

should record the interconnection within all the economic transactions in a regional or interregional economy. The development analysis model had better comprehensively describe an economic region in general equilibrium conditions that connected the social and economic sectors.

Enhancing agriculture development can not only depend on government action. The government requires to collaborate interdependency between sectors in economic cycles. It is vital to build a new perspective in an agricultural development program. The linkage between sectors that have been involved in the agricultural sector is necessary to exposure. Prominently all economic activities are production and consumption. The effectiveness of agriculture development obviously can track by farmer's productivity, income, and welfare. It related to how the interaction has been happening between agriculture activities with other sectors. The agriculture development policy should be able to inquire the question: How could the value-added for agriculture entities reach the income distribution fairness? How is the linkage economic sector impact the poverty reduction in rural? How the rural labor reach labor productivity and welfare?

The agricultural activities are mostly organized in rural. Agriculture in rural identified as a small-scale business, low input, technology, and capital. Then they have been traps in lower productivity, income distribution, and poverty. Rural livelihood with agricultural frame activity mostly not satisfactory capture in economic development. As we know, growth was a multidimensional process involving social, economic, institutional, and other efforts for better welfare (Todaro, 2000). On the other hand, it was also a social change (Iqbal and Sudaryanto, 2008). The implementation of development enhances the status and farmer's welfare and develops humans economically, socially, politically, culture, environment, improvement, growth, and change. Evaluation of poverty alleviation and income distribution in the agricultural sector is vital to the government's reinventing new improvement policy. SAM highlights a series of relevant characteristics of the regional economy. Such as in Pakistan, the livestock sector contributed

10.5% and trade reached 18.4% contribution to the regional economy as the significant contributors to the total domestic value-added. For agricultural products, the land is, unsurprisingly, the largest component of value-added. Large and medium farmers in Pakistan earn a large share of their income from land. However, small and landless farmers rely on labor, livestock, and other capital for most of their income (Debowicz et al., 2013).

This paper was focused on Lampung's economic performance. The agricultural sector mainly contributes to economic development in Lampung Province. Nowadays, the agriculture sector shares more than 34% to gross product regional in five years recently. The Lampung agricultural sector has lacked in land productivity and conversion, technology, manpower productivity, access credit and market, and institution. Based on the human development index (HDI), Lampung was the last in regional Sumatera. Lampung was 69,69 in the middle category, the lowest in Sumatra, Riau was the highest 72,71) and also lower than the national level that reached 71, 94 (National Statistics Board, 2020). HDI is a composite indicator of development achievement measurement in the quality of human living. HDI was firstly developed in 1990 by United Nations Development Program (UNDP) to emphasize the importance of people and their resources in development.

Most of the agricultural society in Lampung is rural (76%). More than 14% of people in Lampung get an average income per capita per month under the poverty line. Concentrated in North Lampung regency (25,17%), East Lampung regency (18,59%), and Pesawaran regency (18,01%). The main root cause of poverty in Lampung is limited access to land. In the last ten years, Indonesia's average farmer's land ownership amounts to 1.1 ha for each farmer. On the other side, farmers with land ownership of less than 0.25 ha increase significantly (33%).

Agricultural development policy may determine the impact of the agri-food value chain sectors. The main issues have a relative connection with the decreasing public sector support for agriculture. Producers face lost access to key inputs and services, in-efficiency

also occurs in the public sector services provision. Sole linkages to markets for poor rural producers are tenuous, complicated by much greater integration of the global economy. Smallholder producers have to compete in markets that are much more demanding in terms of quality and food safety, and more concentrated and integrated. Further, weaken the socioeconomic position of the rural poor (Mekki et al., 2015). Strong policy design should develop elaborated interconnection sectors. The economic data most of them are generally organized in the form of a Social Accounting Matrix (SAM). SAM-based research requires the use of the most recent economic data available in a coherent framework. SAM modeling requires a consistent and coherent benchmark data set (Lemelin et al., 2014; Seung, 2014). With SAM analysis a set integration policy that involved the key sectors could be identified (El Mekki et al., 2015). SAM is also used to identify the relationship between production structures, income distribution, and consumption profile of different household groups in an economy (Pal et al., 2012; Hasbullah et al., 2016; Seung, 2014).

The contribution of the agricultural sector in the regional economic structure Lampung Province is the primary first. The study related the agriculture policy development in Lampung that considers the integrated cross economic sector still limited. Lampung Province government has not set yet the agriculture policy modeling that considers the entire circular flow of income for an economy. Province requires a revitalization of the agricultural sector development model. Appropriate, relevant, and equitable agricultural sector development models will promote economic growth and poverty alleviation, and agricultural communities' welfare. With the SAM model, the leading sector generates incomes which, in turn, are allocated to institutional sectors. These incomes are either spent on products or saved. The expenditures by institutions lead to production by domestic industries as well as supply from the rest of the world. This paper was conducted to develop the SAM Lampung model at the macro level. Also, investigate the agriculture multiplier in Lampung's economy. Then develop a policy recommendation to enhance agriculture

performance. The comprehensive Lampung performance in the SAM approach becomes a new scientific contribution for local government.

## 2. Research Method

Social Accounting Matrix (SAM) applied in building the Lampung macro-economic model. SAM model is broadly implemented in regional and interregional development (Pyatt & Round, 1979; Thorbecke, 1992). The description of all economic activity comprehensively in a region interconnected each (Thorbecke, 2000). SAM also revealed the accumulated balance of the distribution of assets among institutional households (Thiele & Piazolo, 2005). Building a standard macroeconomic model for poverty analysis could be set with SAM analysis. SAM model could be set by an input-output multiplier (Debowicz et al., 2013), or Economic and Social Balance Sheet (SBS). SAM is designed as an accounting instrument and reliably as a tool in especially for the allocation of resources of the economy with a more simple computing program to balance the matrix SAM (Lemelin et al., 2014) most of which is generally organized in the form of a Social Accounting Matrix (SAM. It involved the minimization database using a variety of optimization techniques, including cross-entropy and squares, so the program is very easy and attractive as an options matrix SAM balancing step. SAM approach also analyzed the impact of organic farming on rural economies, to raise revenue and equitable distribution of income (Deb Pal et al., 2012; Hernandez, 2008; Mansury & Hara, 2007).

SAM could record all the economic transaction documents within an economy (Debowicz et al., 2013). As a policy analysis tool, SAM could develop economy-wide models use recent and consistent multisectoral economic data. Investigation economic sector linkage and income distribution in Java applied SAM showed that food, beverage, and tobacco industries, trading, hotel, and restaurant sector relative could not attract backward sector to growth. It was because of the market orientation (Anas, 2019; Sinaga & Alim, 2007).

Lampung Macro-economic Model with SAM

tool needs the secondary data input-output and Lampung economic structure that collected from Lampung Statistic Agency, Agriculture Agency, Industrial and Trade Agency, also Indonesia monetary authorization. The model of measurement of SAM describes in the SAM Matrix consists of four primary components, i.e. (1) production factor balance, (2) institutional balance sheet, (3) balance of production sector, and (4) the rest of the world as follows.

**Table 1. SAM matrix construction for Lampung macro-economic model**

| Expenditure | | | Endogenous balance | | | Exogenous balance | Total |
|---|---|---|---|---|---|---|---|
| | | | Production Factor | Institution | Production sector | | |
| Revenue | | | 1 | 2 | 3 | 4 | 5 |
| Endogenous balance | Production Factors | 1 | $T_{11}$ 0 | $T_{12}$ 0 | $T_{13}$ Allocation of added value to production factors | $X_{14}$ Income of production factors from import | $Y_1$ Factorial income distribution |
| | Institution | 2 | $T_{21}$ Income factors allocation to institution | $T_{22}$ Transfer within institution | $T_{23}$ 0 | $X_{24}$ Transfer from overseas | $Y_2$ Institutional income distribution |
| | Production sector | 3 | $T_{31}$ 0 | $T_{32}$ Domestic Revenue | $T_{33}$ Revenue between | $X_4$ Export & Investment | $Y_3$ Total output based on production sector |
| Exogenous balance | | 4 | $X_{41}$ Income factor allocation to overseas | $X_{42}$ Government saving, private & household | $X_{43}$ Import & others indirect tax | $X_{44}$ Others Transfer | $Y_4$ Total revenue others balance |
| Total | | 5 | $Y'_1$ Factor expenditure & distribution | $Y'_2$ Institution expenditure distribution | $Y'_3$ Total input | $Y'_4$ Total other expenditure | |

Based on SAM structure (Daryanto and Hafizrianda, 2010) the income and expenditure matrix formulated as follows:

$$Y = T + X \qquad (1)$$

The endogenous and exogenous balance formulated:

$$Y1 = T13 + X14 \qquad (2)$$
$$Y2 = T21 + T22 + X24 \qquad (3)$$
$$Y3 = T32 + T33 + X34 \qquad (4)$$
$$Y4 = X41 + X42 + X43 + X44 \qquad (5)$$

Equation (2) was factorial income distribution. Equation (3) was institutional income distribution. Equation (4) showed the total output and the (5) performed the total other income. Then, expenditure distribution endogenous and exogenous formulate as follows:

$$Y'1 = T23 + X41 \qquad (6)$$
$$Y'2 = T22 + T32 + X42 \qquad (7)$$
$$Y'3 = T13 + T23 + T33 + X43 \qquad (8)$$
$$Y'4 = X14 + X24 + X34 + X44 \qquad (9)$$

The total expenditure of the production factor was shown by equation (6). Equation (7) was a total institutional expenditure. Equation (8) explained the total expenditure of the production sector. The last was equation (9) other expenditure. Furthermore, if it is assumed that the magnitude of the average propensity expenditure, Aij, a comparison between the expenditure sector j to sector-i with a total expenditure j ($Y_j$), then:

$$Aij = Tij / Yj \quad (10)$$

the matrix equation is:

$$A = \begin{bmatrix} 0 & 0 & A13 \\ A21 & A22 & 0 \\ 0 & A32 & A33 \end{bmatrix} \quad (11)$$

If equation (3) divided by $Y$, then:

$$\frac{Y}{Y} = \frac{T}{Y} + \frac{X}{Y} \quad (12)$$

Substitution the equation (10) to (12):

$$I = A + X / Y \quad (13)$$
$$(I - A)Y = X \quad (14)$$
$$Y = (I - A)^{-1} X \quad (15)$$

If, then:

$$Y = Ma X \quad (16)$$

A is the coefficients that show the direct influence (direct coefficients) of the changes that occur in a sector to the other sectors. Meanwhile, Ma is an accounting multiplier. Fixed price multiplier analysis leads to the analysis of the response of households to changes in Balance of Exogenous taking account of expenditure propensity (Isard et al., 1998). Table 2 displayed SAM Lampung that is designed by a macro model with an 8 x 8. Availability of Data was Input-Output Lampung 2010 as a basic data.

Regionally, the food and beverage industry is the largest sub-sector according to the output ranking and contributes up to 17,81%, followed by the food crop sector contributing 9,9% of Lampung's total output. This in general can show the magnitude of the ability of the agricultural sector to provide domestic output to meet intermediate demand and the final demand in the economy is very large. Therefore, it is very important to make a series of efforts to increase the productivity and value-added of the food crop sub-sector through the development of rural bio-industry. Development of the linkages of food sectors in upstream within the agroindustry on a larger scale is necessary. Strengthening the linkage of the food crop sub-sector towards rural bioindustry will provide alternative sources of income for rural agricultural communities, reduce unemployment and poverty, and improve community welfare. Figure 2 describes the dominant value-added-based sector in Lampung's economic output.

Table 2. SAM Macro Lampung Model

| Component | | Code |
|---|---|---|
| **Production Factor** | Labor | 1 |
| | Capital | 2 |
| **Institution** | Household | 3 |
| | Private company | 4 |
| | Government | 5 |
| **Production** | Agriculture | 6 |
| | Trading | 7 |
| | Industry and services | 8 |

## 3. RESULT AND DISCUSSIONS
### 3.1 Results

The agricultural sector based on its activities is grouped into food crops, horticultural crops, plantations, livestock, forestry, and fisheries. As showed in Figure 1, the primary agricultural sector in Lampung includes food crops, fisheries, plantations, and livestock which accumulated an output value of 23.04% its amount IDR 64,456 trillion .
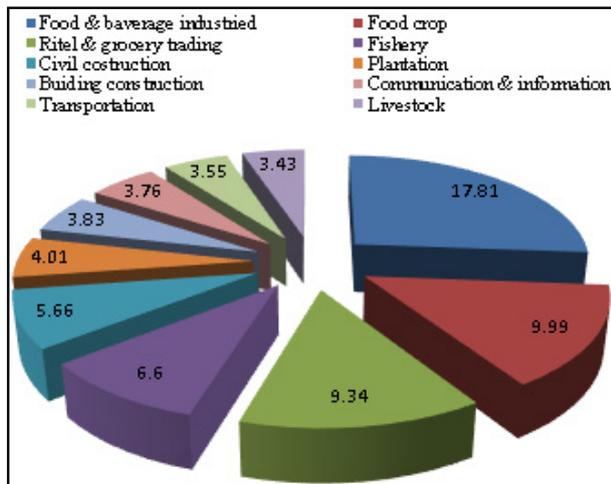
**Figure 1. Dominant sector in Lampung economic output (%)**

Sources: Based on Lampung Input-Output Data 2010

The food and beverage sector and food crops sector contributed were the largest contributors as value-added formation in Lampung economic output. The food and beverage industry sector as a downstream of processed agricultural products reached 48.43% of value addition share. The value addition of the agricultural sector will be higher with the growth and development of downstream agro-industry based on agricultural production of the people's scale. Inappropriately agro-industry sector in Lampung has not optimally become a provider of employment for the labor force. The fast mobility of raw material agricultural products occurs between the islands and between countries. The raw material mobility reflected the agricultural product processing industry (agroindustry) not developed yet. Furthermore, causing the value-added flow out of the region. The value-added generated by the agricultural sector shows the interaction of the agricultural sector with sectors that use agricultural products as their raw materials. The estimation of its backward and forward linkages value means that the sector generates more income than the average sector in the economy. It means the sector responds to shocks more than the average sector. The value of backward linkages refers to the sector change in economy-wide income,

relative to the average change in the economy caused by a change in the respective sector. The forward linkages of a sector refer to the change in income for the respective sector, relative to the average change in the economy caused by a change in all sectors. Forward linkage is affected by changes in other sectors of the economy. The important stimulation and growth trigger in terms of multiplier effects can be considered via backward and forward linkages amongst sectors. The Lampung agro-industry sector has an average backward and forward linkage index of 0.81 and 0.94, (lower than 1) which means that Lampung agro-industry has low show that backward and forward linkages with other sectors in the Lampung economy.

SAM method built by secondary data compilation. Lampung province data collected in SAM classification as Table 2 template. Data amassed in the balance of activity as endogenous and exogenous balance (Table 3). Multiplier sector in SAM Macro Lampung had been created with matrix operation in equation (13). Then the result is performed in Table 4. The multiplier sector of SAM Macro Lampung is a sign of economic sector linkage. The multiplier value determined the value addition in Lampung economy sector creation (Table 5).
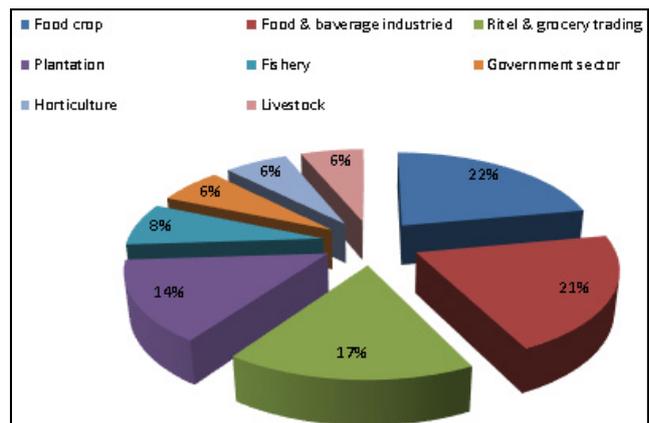


**Figure 2. Dominant value-added based sector in Lampung economic output**

Sources: Based on Lampung Input-Output Data 2010

### Table 3. Lampung Social Economic Balance (SAM model)

| Activities | Code | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Income |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Labor | 1 | 0 | 0 | 0 | 0 | 0 | 1,804,538 | 621,811 | 768,853 | 0 | 3,195,202 |
| Capital | 2 | 0 | 0 | 0 | 0 | 0 | 20,100,225 | 9,110,401 | 43,935,711 | 0 | 73,146,337 |
| Household | 3 | 3,195,202 | 2,584,001 | 5,629,898 | 10,039,694 | 25,321,468 | 0 | 0 | 0 | 0 | 46,770,263 |
| Private company | 4 | 0 | 70,396,784 | 0 | 12,852,896 | 0 | 0 | 0 | 0 | 0 | 83,249,680 |
| Government | 5 | 0 | 165,552 | 951,316 | 7,468 | 12,869 | 0 | 0 | 0 | 25,079,710 | 26,216,917 |
| Agriculture | 6 | 0 | 0 | 26,297,289 | 0 | 0 | 1,025 | 0 | 58,337,474 | 24,855,634 | 109,491,422 |
| Trading | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 5,295 | 6,487,289 | 4,033,423 | 10,526,007 |
| Industry and services | 8 | 0 | 0 | 12,055,947 | 0 | 529,844 | 62,730,000 | 701,715 | 26,639 | 37,545,244 | 113,589,389 |
| Exogenous | 9 | 0 | 0 | 1,835,812 | 60,349,622 | 352,735 | 24,855,634 | 86,785 | 4,033,423 | 0 | 91,514,011 |
| Total Expenditure | | 3,195,202 | 73,146,337 | 46,770,262 | 83,249,680 | 26,216,916 | 109,491,423 | 10,526,007 | 113,589,389 | 91,514,011 | |

Source: Based on Lampung Input-Output 2010 (data processed)

### Table 4. Multiplier SAM Lampung

| Code | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| 1 | 1.03330 | 0.00582 | 0.03330 | 0.00475 | 0.03282 | 0.03632 | 0.06824 | 0.03181 |
| 2 | 0.73189 | 1.12803 | 0.73189 | 0.10446 | 0.72488 | 0.71889 | 1.07825 | 0.87226 |
| 3 | 1.35037 | 0.23615 | 1.35037 | 0.19272 | 1.30922 | 0.18841 | 0.29860 | 0.21435 |
| 4 | 0.83298 | 1.28383 | 0.83298 | 1.30146 | 0.82500 | 0.81818 | 1.22718 | 0.99274 |
| 5 | 0.02921 | 0.00748 | 0.02921 | 0.00428 | 1.02885 | 0.00554 | 0.00863 | 0.00643 |
| 6 | 1.33285 | 0.23312 | 1.33285 | 0.19022 | 1.30704 | 1.60533 | 0.34357 | 0.94350 |
| 7 | 0.06382 | 0.01116 | 0.06382 | 0.00911 | 0.06352 | 0.05556 | 1.02005 | 0.09156 |
| 8 | 1.11681 | 0.19537 | 1.11681 | 0.15939 | 1.11160 | 0.97234 | 0.34207 | 1.60242 |

Source: Based on Lampung Input-Output 2010 Data (data processed)

**Table 5. Value Added in Lampung**

| Activities | Code | 6 | 7 | 8 |
|---|---|---|---|---|
| Labor | 1 | 0.03632 | 0.06824 | 0.03181 |
| Capital | 2 | 0.71889 | 1.07825 | 0.87226 |
| Household | 3 | 0.18841 | 0.29860 | 0.21435 |
| Private company | 4 | 0.81818 | 1.22718 | 0.99274 |
| Government | 5 | 0.00554 | 0.00863 | 0.00643 |
| Agriculture | 6 | 1.60533 | 0.34357 | 0.94350 |
| Trading | 7 | 0.05556 | 1.02005 | 0.09156 |
| Industry and services | 8 | 0.97234 | 0.34207 | 1.60242 |
| Multiplier value addition | | 0.75521 | 1.14648 | 0.90407 |
| Multiplier household income | | 0.18841 | 0.29860 | 0.21435 |
| Multiplier government income | | 0.00554 | 0.00863 | 0.00643 |
| Multiplier own production income | | 1.60533 | 0.34357 | 0.94350 |
| Multiplier linkage sector | | 1.02790 | 1.36212 | 1.69398 |
| Multiplier production income | | 2.63323 | 1.70569 | 2.63748 |
| Multiplier total | | 4.40057 | 4.38658 | 4.75506 |

Source: Based on Lampung Input-Output 2010 Data (data processed)

The added value produced by the food crops sub-sector is the highest, reaching 13.89% of Lampung's GRDP. However, it turns out that the food crops sub-sector is not included in the top 10 sub-sectors that have a high degree of sensitivity and distribution. This condition shows that the food crops sub-sector has not been optimally linked and has created a close dependence on its supporting sub-sectors. It has also not been able to optimally encourage the growth of its further processed sub-sector, because the distribution capacity still needs to be improved.

## 3.2 Discussion

Based on the results of these calculations can be seen that the greatest economic sector creating value addition is trade, then industrial and service sectors, then agriculture. Multiplier value addition in the trade sector is the highest in the Lampung economy, reaching 1.14648. The second-largest Industrial and service sectors

amount to 0.9047. Multiplier agriculture value addition sector is the smallest, 0.75521. This value means that the added value that can be created by the agricultural sector amounted to Rp 0.75521 from exogenous stimulus on the balance sheet amounted to Rp 1. Multiplier value addition of agriculture, industry, and services sectors in Lampung relatively the same when compared to Papua, which amounted to 0.7550 and 0.9145 (Daryanto and Hafizrianda, 2010). This situation also happened in Malaysia, that the contribution of agriculture to Malaysia's economy has significantly declined over the years, but the government continues to regard the sector as strategically important.

The rationale of these conditions is that although the agricultural sector base contributes an average of more than 33% PDRB and remained the leading sector for the economy of Lampung the greatest value addition is predominantly by the trade, industry, and services. The complexity of the agricultural sector in dealing with problems such as low productivity, causing the wage level to be lower than the sector of trade and industry sector. The impact is the low level of welfare of the rural population who depend on agriculture. Structural poverty still widened the scourge for the agricultural community in rural areas. Regionally several poverties rank second in Sumatra, and number three nationally. It is an irony when viewed that the earth's Lampung province is located on the trajectory of agribusiness and the gates of Sumatra Island that should be able to obtain the widest potential value addition of agricultural commodities in trading activities across the region.

Orientation towards the declining contribution of the agricultural sector accompanied by an increase in the contribution of trade and industry and services in the economy Lampung showed that the value addition of the agricultural sector has not been optimally provided benefits to agriculture stakeholders. Infrastructure for the agricultural sector has been linked yet with the processing industry and trade speckle adequate. This condition shows that the ability of Lampung agricultural production is merely the raw material. Generally, crops produced

conventionally led to low productivity, quality, and variety types are very diverse. Farmers have lacked the ability, not adequate knowledge and skill to apply the right technology agricultural practices. Also, in harvesting process and package activities, including labels and brand performed. The trade sector is predominantly taking part in activities of sorting, grading, and packaging. Agro-industry has been dominated by medium and large-scale industries, which generally also have ownership in a plantation. Small and medium scale processing are a few and underdeveloped. The rural industries lack investment, technology, and human power. Value addition divers to other economic stakeholders. As a producer in the first commodity supply chain, the farmers have been obeying.

The multiplier household's income reflected the lowest (0.18841) as compared to domestic trade (0.29860) and industry and services (0.21435). Agricultural household's multiplier value of 0.18841 means if there is an induction on the balance sheet exogenous stimulus from the agricultural sector amounted to IDR 1 - the farm household will get a revenue increase amount IDR 0.18841.

The government sector multiplier value is lower than most others. This shows that the government has not been optimally obtained an adequate response. Although the government's highest multiplier value is derived from revenues trade sector (0.00863), industry and services (0.00643), and agriculture (0.00554). Local government responsibility as stimulator performed low. The contribution is still limited. This fact means the government needs to improve their stimulation on development economic sector, including investment in research and development.

Meanwhile, based on the value of the multiplier acceptance of its production (MPS), the agricultural sector has the highest (1.60533), trade (0.34357), and industry and services (0.94350). MPS value of the agricultural sector attaint to 1.60533. It means that if there any stimulus amounts IDR1 million, - on the balance of exogenous agricultural sector, the agricultural sector revenues increased by IDR 1.60533 million.

The multiplier linkages with other sectors (MLO) showed that industry and services (1.69398), trade (1.36212), and agriculture (1.02790). In this condition, the industry and services sectors have the highest linkages with other sectors. If there is an exogenous shock on the balance of industrial and service sectors of IDR1 million, - then an acceptance of the industry sector linkages with other sectors increased by IDR1.69398 million, - Although the agricultural sector has a multiplier value of linkages to other sectors is low compared to industrial and service sectors, as well as the trade, but the value multiplier is also high at 1.02790, more than one.

Meanwhile, based on the value of the multiplier acceptance of production, the agricultural sector has value (2.63323), trade (1.70569), and industry and services (2.63748). In this situation, the agricultural sector is only a narrow margin with industry and services sectors. A high multiplier value reached more than 2 indicates that when there is an exogenous shock on the balance sheet for the agricultural and industrial sectors and services by one unit, it will obtain revenues reaching more than 2 units.

Furthermore, the final multiplier that will be seen is the multiplier of the total value. This value is the sum of the entire contents of the column vector cell-matrix multiplier. The role of an economic sector in regional revenue increase reflected the total value of this multiplier (Daryanto and Hafizrianda, 2010). Lampung multiplier total regional economy of the agricultural sector amounted to 4.40057, trade (4.38658), and industry and services (4.75506). This means the agricultural sector's contribution to the regional economy Lampung has a value-added amount of 4.40057. The highest multiplier by industry and services with value addition attain to 4.75506, while the trade sector added value of 4.38658.

## 4. Conclusion

Based on the total multiplier, the agriculture sector is still dominant in Lampung economic structure. The agriculture value addition is the second largest. Contrary to agriculture's household multiplier was the lowest compare

with trade and industry and services. This fact indicates that agriculture development is not adequate yet enhancing the farmer's income. Local governments need to improve their policy in agriculture development focus on farmer's households. Stimulation on agriculture exogenous balance is necessary to enhance farmers' household income. Local government through fiscal policy is important to increase the capital expenditure in the agriculture sector. It is primary to fix agriculture infrastructure and improve the farmer's resources.

Policy recommendations should focus on capital expenditures to improve the quality of the farmer's capacity and resources access, then the opening of new opportunities in jobs creation in the agricultural sector, both labor-intensive and capital-intensive. On the other hand, the stimulus incentives for businesses in agriculture through easy permits, tax incentives, easy access to credit from the financial, as well as the expansion of the network of domestic and international markets will systematically increase investment in agriculture.

## 5. Acknowledgment

## 6. Refference

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